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EXAMINER	
CHAN, CEDRIC A	

ART UNIT	PAPER NUMBER
1797	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/517,385	LARSEN, ULRIK DARLING	
	Examiner	Art Unit	
	Cedric Chan	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 October 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *29-54 and 56-62* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *29,30,32-51,53,54,56 and 61* is/are rejected.

7)☒ Claim(s) *31,52,57-60 and 62* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 March 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicant's reply to the Office Action of October 28, 2008 was received on March 23, 2009. In the amendment, claim 55 was canceled and claims 57-62 newly added. Currently, claims 29-54 and 56-62 are pending.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on June 30, 2009 was filed after the mailing date of the non-final Office Action on October 28, 2008. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

The drawings were received on March 23, 2009. These drawings are acceptable for examination and have been entered into the record.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 29, 32, 35, 43, 46-51, 53 and 61 are rejected under 35 U.S.C. 102(b) as being anticipated by Berndtsson (US Patent 6,387,328).

Berndtsson teaches a disposable sampling device (cartridge) and an apparatus for counting particles contained in a liquid, including a solid block-shaped housing connectable to the apparatus. The housing has a member for introducing a sample therein, a device for metering a defined volume of the sample, and a chamber for containing a defined volume (V) of a diluting liquid (see Abstract).

The device comprises a substantially block-shaped housing (i.e., body 40), said body including therein a first mixing chamber (i.e., volume space 61) and a first collection chamber (i.e., conical recess 59) separated by a wall containing a first orifice (see col. 5, l. 18-24).

In the housing, there is provided a reagent storage chamber or first storage chamber, i.e. cylinder (44). A piston (47) is axially movable within the cylinder by means of a piston rod (48) accessible from outside the housing, the upper end (48) of the (first) reagent storage chamber (44) being connected to a channel (49) provided in the housing (see col. 3, l. 40-47). The first storage chamber (i.e. reagent storage chamber) is in communication with the first cavity (valve chamber 52) of the first sampling member so that liquid can be communicated from the liquid storage chamber through the first cavity, and into the first mixing chamber (i.e., space 61). A volume (V) of the reagent storage chamber (44) is filled with a liquid (L), such as a diluting liquid. Furthermore, Berndtsson states that the volume (V) is defined by the piston (47) in an axial position thereof where it covers the mouth of the channel (63).

In the housing there is also provided a first movable sampling member, i.e. turning valve (50) having a valve body (51) that is rotatable within a first cavity, i.e.

cylindrical valve chamber (52). An actuating means, such as a diametrically extending slot or two diametrically opposed holes (51'), is provided to rotate the movable sampling member from outside the housing. A through channel 53 extends across the valve body which is positionable in two different positions (col. 3, l. 49-55).

The first sampling member described above can be positioned according to claim 29 (see Figs. 2, 3-9,10, or 11). In a first position, the through channel communicates with an intake channel (54) in the housing opening in a sample receiving bore, i.e. aperture (55) in the front wall and a sucking channel (56) leading to a sucking means in the shape of a diaphragm pump (57) having a resilient diaphragm (58) covering the conical recess (59) in the upper wall (41). In a second position (shown in FIGS. 5-8), the through channel communicates with the channel from the cylinder (44) and with a channel (60) leading to the bottom of the first mixing chamber, i.e. volume space (61) (col.3, l. 55 thru col. 4, l.3).

The cartridge also includes several connectors for docking the cartridge to the docking station (apparatus 84 shown in Figs. 12 and 13) and enabling electrical and fluid connections when the cartridge is received in the docking station. Specifically, in the channel (63) there is a capillary (64) and on either sides thereof an electrode (65, 66) connected to a respective conductor (67, 68) terminating in a respective terminal (69, 70). In the channel (63) there are also two detectors (71) and (72) having signal transmitting conductors (73,74), respectively, terminating in respective terminals (75,76) in the bottom wall of the cartridge. The detectors (i.e., "first particle characterizing means", also, "sensor") may, e.g., be optical detectors, and in such case the conductors

(73, 74) are optical fibres. Also possible is that the detectors are capacity sensitive detectors, and in such case the conductors (73, 74) are electric conductors. In any case, the detectors are adapted to start and stop, respectively, the particle counting operation (see col. 4, l.4-15). Berndtsson further specifies that the sensor component (i.e. detector) may specifically be adapted to have a light sensor (93) to conduct photometric measurements (see col. 6, l. 15-22).

Regarding claims 48 and 49, a piston-actuated pumping mechanism is used to induce mixture of reagent (L) with sample (S). In Fig. 8, the piston pump chamber is in communication with chamber/space 61, which (since mixing is occurring in this case in the pump chamber i.e. cylinder 44) may serve as the device's 'first' collection chamber. Regarding claim 50, Berndtsson teaches a diaphragm (i.e. membrane) actuated pump (57) (see col. 3, l. 60).

Berndtsson also teaches the apparatus recited in claim 53, including the cartridge of claim 29 per the above discussion, as well as a counting apparatus (84) with a docking station (i.e. "base instrument" – see Fig. 12) having connectors for electrical and fluidic connections which enables particle characterization (counting) when the cartridge is received in the docking station at the provided means for docking/receiving of the cartridge, i.e. the receiving slot (85) (see col. 6, l. 7-14).

In accordance with the structural features of the cartridge and apparatus discussed above, Berndtsson further teaches a method of operating said apparatus/cartridge corresponding to the invention set forth in claim 51. Briefly, Berndtsson's method includes the following steps: first, a volume (S) of blood is

sampled from a human patient. In the first step, the first sampling member, i.e. valve body (51), is positioned in a 'first' position such that blood is allowed into the cartridge. The cartridge is then connected to an a-centrally located particle counting apparatus (84) (col. 4, l. 47-48). The valve body (51) is rotated to its second position (shown in Fig. 5), and then actuation/displacement of the piston (47) causes the liquid (L) contained in the reagent storage chamber (i.e., the first storage chamber) to flow through channel 49 (displacing a sample of blood contained therein), and mix with the blood sample in the mixing chamber (i.e., space 61) (see col. 4, l. 55-60). Once the sample reaches the detector (sensor), the particle characterization is conducted. After sample characterization, the cartridge may be disconnected from the counting apparatus 84, and disposed. For additional details regarding Berndtsson's method of operation, Applicant is referred to col. 4, l. 35 thru col. 5, l. 30 of Berndtsson's disclosure.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 30, 34, 41, 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berndtsson (US Patent 6,387,328) in view of Gorin et al. (US Patent 5,077,017).

Berndtsson teaches the structural features listed in claim 29, but does not teach a cartridge having a second mixing chamber separated from a second collection chamber by a second orifice, or second particle characterizing means.

Gorin et al. (hereinafter, "Gorin") teach several embodiments of a dilution and mixing cartridge, including one embodiment comprising multiple mixing chambers, multiple collection chambers, and multiple particle characterization means. The embodiment depicted in Fig. 5 is a cartridge in which multiple analyses can be carried out, said cartridge comprising multiple measuring chambers (532, 532', 532'') and reagent storage containers (first, second, and third storage chambers, i.e. diluent application sites 520, 520', 520''). First and second mixing chambers (540, 570) are also provided. It is noted that if there are multiple measuring chambers, then there are clearly then multiple (e.g., first, second, third, etc.) measuring (characterizing) means (see col. 14, l. 43-65).

Inspection of Berndtsson's device as depicted in Fig. 2 (for example) shows that it would not only have been simple to modify the fluidic arrangement in the cartridge with these secondary features taught by Gorin, but it would have obvious to one of ordinary skill in the art to do so. Gorin teaches multiple sets of measuring, collection, and mixing chambers in order to enable the performance of "several analyses" using one cartridge.

It would have been obvious to one of ordinary skill in the art to provide Berndtsson's device with the secondary fluidic arrangement recited in instantly presented claim 30, in order to perform multiple analyses using the same cartridge. Such a modification would allow for a third valve position per claim 30. It would have been obvious to provide such a third valve position, in order to allow for control of

multiple fluid samples (including different reagents and/or different dilutions) using one valve instead of a plurality of valves.

Regarding claims 34 and 36, it would have been obvious to modify Berndtsson's device to include second mixing and collection chambers for the reasons previously discussed. With further regard to claim 34, it was discussed previously that Berndtsson's device comprises a capillary wherein two electrodes (i.e., a first electrode 65 and a second electrode 66) are provided on either sides of the capillary, each electrode being connected electrically to a respective terminal (terminals 69 and 70) that are accessible from the outside of the cartridge.

Regarding claim 41, Berndtsson teaches the limitations of claim 29, but does not specifically disclose mixing and collection chambers having the geometric properties recited (i.e., chamber transverse cross-sectional area substantially smaller at the orifice junction than at 'higher' levels).

Gorin suggests such a configuration in patent '017, for creating a natural "stop flow junction." This type of junction, Gorin explains, "is not a traditional valve as it has no moving parts. Rather, this junction relies on backpressure from the surface tension of the liquid sample to stop flow." Backpressure is created, for example, "when the cross-sectional area of the flowpath increases in a region in which there is contact between the liquid and the container walls (e.g., when a small tube enters a larger chamber or when the cross-sectional area of a channel increases). Greater backpressure and more consistent operation is achieved when the increase in cross-sectional area of the flowpath is abrupt rather than gradual (col. 6, l. 37-50).

It would have therefore been obvious to one of ordinary skill in the art to provide the cartridge of Berndtsson with mixing and collection chambers configured according to the teaching of Gorin, in order to achieve greater backpressure and thus a greater amount of fluid flow control within the cartridge.

Regarding claims 44-45, Berndtsson teaches the limitations of claim 29, but does not specifically disclose a magnetic mixing member to be placed in the mixing chamber.

Gorin teaches another embodiment of the invention previously described, as shown in Fig. 12A. Mixing in this embodiment of Gorin's mixing and dilution cartridge occurs in the mixing chamber (740), below which is provided a recess (747). The recess 747 allows close approach of a magnet or other means to activate a stirring bar or plate retained in chamber 740.

It would have been obvious to one of ordinary skill in the art to incorporate a mixing member such as Gorin's stirring bar/plate into the mixing chamber of Berndtsson, in order to achieve highly efficient and effective mixing of sample/reagent solutions within the mixing chamber. It would have been obvious to provide a magnetic mixing member as taught by Gorin, because magnetic mixing members allow controllable direct mixing of fluids without the need for the space-consuming mechanical actuators or expensive and less-effective non-contact mixing mechanisms like piezoelectric/ultrasonic mixing devices.

Regarding claim 55, Berndtsson teaches the limitations recited in claim 53 but does not specifically teach a second particle characterization means (or the required docking station connectors).

It would have been obvious to modify Berndtsson's device to include second particle characterizations means for the reasons previously discussed. Moreover, it would have been obvious to one of ordinary skill in the art to provide docking station connectors for the second characterization means, just as Berndtsson taught with respect to the first characterization means, because adding such connectors would allow the second characterization means to be powered directly by the docking station.

Claims 37-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berndtsson (US Patent 6,387,328) in view of Besemer et al. (US Patent 5,104,813).

Berndtsson teaches the structural features of claim 29, as discussed above. However, Berndtsson does not specifically disclose a volume metering means per claims 37-40 of the instant invention.

Besemer et al. (hereinafter, "Besemer") teach a dilution and mixing cartridge comprising various optical and/or other types of sensors for detecting the presence of liquids or analytes in various mixing and/or measuring chambers of the cartridge (col. 15, l. 20-26). For example, sample entering a flow chamber can be detected optically by detecting light at a location adjacent the sample entrance (input). Taking such an observation at the input allows for control of operational timing of the analytical apparatus (see col. 16, l. 10-20). Detectors might instead be placed at opposite sides of the cartridge in order to detect when fluid has reached the end of, for example, a measuring chamber 240 (see col. 18 l. 60 thru col. 19, l. 3).

With regard to claims 37, 38 and 40, it would have been obvious to incorporate the optical fluid presence detector taught by Besemer into the cartridge of Berndtsson, in order to achieve operational timing control or to control the delivery of reagent and/or sample according to the presence of fluid already in the cartridge.

Berndtsson does not teach using electrodes as fluid presence detectors, but does teach the use of electrodes for counting particles. It is well known in the art that electrodes can be used to detect electrical characteristics of a fluid such as impedance, resistance, etc. Furthermore, routineers in the art commonly use electrodes as sensors. In Berndtsson's device, for example, electrodes are used to count particles. Thus, with specific regard to claim 39, it would have been obvious to modify the combined invention of Berndtsson/Besemer as applied to claim 38, by providing electrode detection instead of optical detection means. Such a modification would have been obvious to one of ordinary skill in the art, because electrodes are commonly known for measuring/detecting particles, and using electrodes instead of an optical system eliminates the need for additional light sources and detectors.

Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berndtsson (US Patent 6,387,328) in view of Kelley (US Patent 5,257,984).

Berndtsson teaches the structural features of claim 29, as discussed above. However, Berndtsson does not specifically teach a first cavity comprising an anti-coagulation reagent.

Kelley teaches a blood collecting device for transferring a blood specimen from a droplet source to a collection tube via a capillary tube (Abstract). The blood collection device (22) comprises a short cylindrical tube (24) and a glass capillary tube (36), said capillary tube (36) having an anti-coagulant coating on its inner surface using, for example, heparin or EDTA anti-coagulants (col. 3, l.1-6).

It would have been obvious to one of ordinary skill in the art to provide the first cavity in Berndtsson's device with an anti-coagulant coating like Kelley teaches in '328, in order to prevent coagulation of blood after it is sampled while it is being contained within the holding cavity.

Claims 33 and 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berndtsson (US Patent 6,387,328) in view of Feistel (US Patent 6,426,230).

Berndtsson teaches the structural features of claim 32, as discussed above. However, Berndtsson does not specifically teach a breakable seal separating the reagent chamber from the first mixing chamber.

Feistel teaches several embodiments of a disposable diagnostic device for conducting a diagnostic test on a sample. The device includes a substantially planar, flexible article, a channel formed within the article, at least one fluid-receiving compartment formed within the article and fluidly connectable to the channel, and a solid phase movably positioned within the channel (Abstract). Generally, the device comprises: an article (such as a laminate) which has a channel (25) formed therein that extends along the length of the laminate from a sample transfer end (26) to a test result

end (27). Along the length of the channel (25) are several fluid-receiving chambers (e.g., compartments 35 and 40) which are fluidly connectable to the channel (25). At least one of these compartments is pre-filled with a liquid such as a reagent, tracer, etc. The pre-filled compartment (35) is fluidly connectable to the channel (25) via a passage (37). Fluid (36) within the compartment (35) remains in the compartment until pressure is externally applied to the compartment by a peristaltic force. The pressure causes a breakable seal (38) to rupture, releasing the fluid (36) into the channel (col. 4, l. 29-46).

It would have been obvious to provide a breakable seal as taught by Feistel to separate the reagent chamber from the first mixing chamber in the invention of Berndtsson, in order to prevent accidental leakage of stored reagent prior to use of the device.

With regard to claim 54, Berndtsson teaches the structural features of claim 53, but does not specifically teach a docking station comprising a port for forming a gas connection with the cartridge port when the cartridge is received in the docking station.

Feistel teaches embodiments of device (10) wherein the channel can include an air vent that is connectable to an external source of gas for applying drying gas, e.g., air, to the solid phase (col. 2, l. 20-29). The device can include a dual purpose vent system that allows displacement of air within the chambers, as well as introduction of air for purging and drying situations. The dual purpose vent (150) provides an output for air within the channel (25), as well as an input for external gases that may be necessary for conducting a particular diagnostic test (col. 7, l. 13-27).

Additionally, Feistel provides the device (10) with attachment holes (85) for mounting device 10 during a diagnostic test to, for example, a diagnostic test machine capable of applying and controlling the required peristaltic forces, and detecting the test results.

It would have been obvious to one of ordinary skill in the art to provide modify the invention of Berndtsson with a gas port as taught by Feistel, in order to allow (for example) injection of drying and/or purging gas. It would have been obvious to provide the docking station taught by Berndtsson with a gas connection port, in order to supply air/gas to the cartridge during a particle characterization operation.

Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berndtsson in view of Feistel (US Patent 6,426,230).

Berndtsson teaches the structural limitations recited in claim 61 (see above), but does not disclose a docking station comprising a port for forming a gas connection with the cartridge port when the cartridge is received in the docking station.

Feistel teaches embodiments of device (10), as previously discussed, wherein the channel can include an air vent that is connectable to an external source of gas for applying drying gas, e.g., air, to the solid phase (col. 2, l. 20-29). The device can include a dual purpose vent system that allows displacement of air within the chambers, as well as introduction of air for purging and drying situations. The dual purpose vent (150) provides an output for air within the channel (25), as well as an input for external gases that may be necessary for conducting a particular diagnostic test (col. 7, l. 13-27).

Additionally, Feistel provides the device (10) with attachment holes (85) for mounting device 10 during a diagnostic test to, for example, a diagnostic test machine capable of applying and controlling the required peristaltic forces, and detecting the test results.

It would have been obvious to one of ordinary skill in the art to provide modify the invention of Berndtsson with a gas port as taught by Feistel, in order to allow for injection of drying and/or purging gas. It would have been obvious to provide the docking station of Berndtsson with a gas connection port, in order to supply air/gas to the cartridge during a particle characterization operation.

Allowable Subject Matter

Claims 31 and 52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Newly added claims 57-60 and 62 are dependent upon claim 31, and thus are also objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments, see Response filed March 23, 2009, with respect to the rejection of claim 30 under 35 U.S.C. 112, second paragraph, have been fully

considered and are persuasive. The rejection of claim 30 under 35 U.S.C. 112, second paragraph, has been withdrawn.

Applicant's arguments with regard to the claim rejections under 35 U.S.C. 102(b) and 35 U.S.C. 103(a) have been fully considered but they are not persuasive.

Applicant argues that Berndtsson does not teach all of the features listed in claim 29, pointing out in particular, that the collection chamber is "separated by a first wall from the first mixing chamber, the first wall having a first orifice for the passage of particles between the first mixing chamber and the first collection chamber." However, as is pointed out in the previous Office Action (and reiterated in the claim rejections above), Berndtsson's device does indeed have such a mixing chamber. Berndtsson teaches a first mixing chamber (61) which, by definition, comprises walls defining a space for containing/holding some material. Applicant is referred to Fig. 2, which depicts such a configuration.

With regard to the claimed "orifice" which allows particles to pass between the first mixing chamber and the first collection chamber, Examiner respectfully disagrees with Applicant's suggestion (Remarks, pg. 27) that an orifice is not disclosed by Berndtsson. The capillary channel (60) comprises an "orifice" that would be fully capable of allowing the claimed particulate transfer to occur between the (first) mixing and collection chambers. Again, Fig. 2 shows that the contents of the first mixing chamber (61) are physically separated from the contents of the first collection chamber. It is only the channel (60) which connects the two, thereby enabling fluid transfer from one chamber to the other. The channel is, technically, a bore, i.e. hole or aperture

connecting the two chambers, thus Examiner maintains that Berndtsson does in fact teach the features listed.

Applicant argues further that the device recited in claim 29 has several claimed functional/operational advantages over Berndtsson (Remarks pg. 27-28), but is reminded that functional and operational characteristics of an apparatus invention result from the structural differences among the apparatuses, and so even though the listed advantages are considered fully, claim 29 is not patentable since the structural limitations therein are fully anticipated by Berndtsson.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cedric Chan whose telephone number is (571) 270-3721. The examiner can normally be reached on Monday-Thursday 8:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. C./
Examiner, Art Unit 1797

/Jill Warden/
Supervisory Patent Examiner, Art Unit 1797